Louisiana Department of Environmental Quality (LDEQ)
Office of Environmental Services

STATEMENT OF BASIS

Trunkline LNG Company LLC
Trunkline LNG Co LLC - Lake Charles LNG Receiving Terminal
Lake Charles, Calcasieu Parish, Louisiana
Agency Interest Number: 3351
Activity Number: PER20050002
Proposed Permit Number: 0520-00098-V6

I. APPLICANT

Company:
Trunkline LNG Company LLC
Post Office Box 4967
Houston, Texas 77210-4967

Facility:
Trunkline LNG Co LLC - Lake Charles LNG Receiving Terminal
8100 Big Lake Road
Lake Charles, Calcasieu Parish, Louisiana
Approximate UTM coordinates are 472.200 kilometers East and 3330.900 kilometers North, Zone 15

II. FACILITY AND CURRENT PERMIT STATUS

The Lake Charles LNG Receiving Terminal receives liquefied natural gas (LNG) by marine vessel at its marine terminal. The LNG is transferred to four pressurized storage vessels, which are not emission sources. Vapors created during the transfer operation are re-pressurized and re-injected into the LNG stream. Pumps submerged in the LNG tanks elevate the pressure of the liquid sufficiently to lift it out of the tanks and circulate it to the dock area to maintain those lines in a cold state. Second stage pumps elevate the pressure to about 1500 psig before the LNG enters the vaporizers. The facility operates ten vaporizers to re-gasify the LNG for subsequent transmission by interstate pipeline. Ancillary emission sources are present and include two fuel gas heaters, component fugitive losses, a gasoline storage tank, two insignificant diesel-powered generator engines used as stand-by units to provide emergency power in the event of loss of primary power from the utility grid, two insignificant diesel storage tanks, insignificant diesel firewater pumps, and insignificant Bunker C heaters.

With the previous modifications (0520-00098-V4 and 0520-00098-V5), Trunkline LNG Company proposed to add four additional vaporizers (Emission Points E-17, E-18, E-19, and E-20), add one glycol solution heater (Emission Point E-21), reclassify the existing gas-fired turbine generator (Emission Point E-1) to a standby unit with an operating schedule limited to 800 hours per year, remove the GE Turbine (Emission Point E-12) from the permit as the plans to construct it were abandoned, and update fugitive emissions to reflect the changes. Trunkline LNG Company then proposed to add language that clarifies the fact that the existing turbine (Emission Point E-1) will be used as an emergency power source only after the startup of the Phase II emissions sources (Emission Points E-17 through E-21). The completion of the construction of a new electrical substation before the startup of the Phase II emission sources would allow the turbine to be operated as an emergency power source. The Phase II emission sources and substation completed constructed on August 21, 2006, and are currently in operation. Therefore, the turbine is now designated as an emergency use turbine and would operate an maximum of 800 hours per year.

Trunkline LNG Co LLC - Lake Charles LNG Receiving Terminal is a designated Part 70 source. Several Part 70 permits have been issued to the operating units within the facility. These include:

Permit No.	Unit or Source	Date Issued
0520-00098-V0	Entire Facility	May 13, 1998
0520-00098-V1	Entire Facility	March 30, 2001
0520-00098-V2	Entire Facility	October 1, 2002
0520-00098-V3	Entire Facility	May 2, 2003
0520-00098-V4	Entire Facility	April 28, 2004
0520-00098-V5	Entire Facility	May 3, 2005

In addition, PSD Permit Number PSD-LA-97(M-2); issued May 27, 1987, and PSD Permit Number PSD-LA-685; issued October 1, 2002, were also issued to the facility.

III. PROPOSED PROJECT/PERMIT INFORMATION

Application

A permit application was submitted on November 11, 2005, requesting a Part 70 operating permit for the Trunkline LNG Co LLC - Lake Charles LNG Receiving Terminal. Additional information dated April 13, 2006, June 12, 2006, July 5, 2006, August 26, 2006, and September 20, 2006, was also submitted.

Project

Trunkline LNG Company proposes to authorize an additional construction project, known as the Infrastructure Enhancement Project (IEP). The purpose of the IEP is to add ambient air vaporizers, gas processing equipment, and two glycol heaters.

The ambient air vaporizers are not emission sources, and the only emissions that will emanate from the gas processing equipment are fugitive emissions. Other emission sources to be added as a result of the IEP are three diesel-fired emergency generators (one new engine plus two existing engines that will no longer be insignificant). Resulting insignificant activities will include the replacement of the eight existing fire water pumps, the addition of a new fire water pump, and the addition of nine new diesel storage tanks. Overall, emissions from the facility will be significantly reduced as a result of the project, since the operation of the currently permitted combustion vaporizers and turbine will be reduced upon completion of construction of the IEP. As such, Trunkline LNG Company also proposes to limit operations by establishing a total annual heat input CAP of 5,704,000 MM Btu/yr for LNG vaporizers E-3 through E-9 and E-14 through E-16, a total annual heat input CAP of 2,331,200 MM Btu/yr for LNG vaporizers E-17 through E-20, a total annual heat input CAP of 2,319,210 MM Btu/yr for the two new glycol heaters (E-22 and E-23), and further limiting hours of operations of the stand-by turbine (E-1) to a maximum of 200 hr/yr. The current modification request is to be imposed upon completion of the new IEP construction project. Therefore, a new Phase I and Phase II will be incorporated into this permit modification. The new Phase I will consist of the turbine (E-1) operating at 800 hr/yr and the existing vaporizer (E-3 through E-9 and E-14 through E-20) operating without an annual heat input CAP. The new Phase II will consist of the turbine (E-1) reduced to 200 hr/yr and the existing vaporizers operating with an annual heat input CAP. The potential increase in NO_X emissions from affected sources *(without respect to decreases)* was above its significance level; therefore, a PSD netting analysis was required. The net contemporaneous increase in NO_X emissions (as evaluated on an actual to allowable basis using 2001 through 2004 actual emissions) was less than the significance level of 40 TPY; therefore, PSD review was not required. Reduction of NO_X emissions was obtained by limiting the hours of operation of the gas turbine, Emission Point E-1, to 200 hours per year and establishing heat input CAPs for the vaporizers and glycol heaters.

Trunkline LNG Company, also requested the use of updated emission factors to correct current PM_{10}, SO_2, and VOC emission limits for the existing LNG vaporizers E-3 through E-9 and E-14 through E-16, and also to add an existing 2.3 MM gallon Bunker C Storage Tank. The potential increase in PM_{10}, SO_2, and VOC emissions from affected sources *(without respect to decreases)* were not above there significance level; therefore, a PSD netting analysis was not required.

Proposed Permit

Permit 0520-00098-V6 will be the modification of Part 70 operating permit 0520-00098-V5 for the Trunkline LNG Co LLC - Lake Charles LNG Receiving Terminal.

Permitted Air Emissions

Estimated emissions in tons per year are as follows:

POLLUTANT	BEFORE (OLD PHASE II)	NEW PHASE I	NEW PHASE II	CHANGE
PM_{10}	29.03	43.93	40.47	+ 11.44
SO_2	2.45	3.75	3.36	+ 0.91
NO_X	330.95	331.02	275.96	- 54.99
CO	176.29	176.29	154.62	- 21.67
VOC	20.99	31.90	31.11	+ 10.12

VOC LAC 33:III Chapter 51 Toxic Air Pollutants (TAPs):

POLLUTANT	BEFORE (OLD PHASE II)	NEW PHASE I	NEW PHASE II	CHANGE
Benzene	0.01	0.01	0.01	No change
Ethyl benzene	0.01	0.01	0.01	No change
Formaldehyde	0.37	0.61	0.64	+ 0.27
MTBE	0.02	0.02	0.02	No change
Toluene	0.04	0.04	0.04	No change
Xylenes	0.03	0.03	0.03	No change
Total	0.48	0.72	0.75	+ 0.27

IV. REGULATORY ANALYSIS

This application was reviewed for compliance with 40 CFR 70, the Louisiana Air Quality Regulations, Prevention of Significant Deterioration (PSD), New Source Performance Standards (NSPS), National Emission Standards for Hazardous Air Pollutants (NESHAP), Louisiana Comprehensive TAP Emission Control Program, and Compliance Assurance Monitoring (CAM) regulations.

Louisiana Air Quality Regulations and NSPS

The applicability of the appropriate regulations is straightforward and provided in the Specific Requirements section of the proposed permit. Similarly, the Monitoring, Reporting and Recordkeeping necessary to demonstrate compliance with the applicable terms, conditions and standards are also provided in the Specific Requirements section of the proposed permit.

Gas Turbine E-1 shall comply with New Source Performance Standards (NSPS), 40 CFR 60 Subpart GG – Standards of Performance for Stationary Gas Turbines. The vaporizers shall comply with NSPS, 40 CFR 60 Subpart Dc – Standards of

Performance for Small Industrial-Commercial-Institutional Steam Generating Units.

Applicability and Exemptions of Selected Subject Items

ID No.:	Description	Requirement	Notes
AI3351	Facility Wide	LAC 33:III.Chapter 59 – Chemical Accident Prevention and Minimization of Consequences [LAC 33:III.5901]	DOES NOT APPLY. Facility does not produce, process, handle, or store substances listed.
		40 CFR 64 – Compliance Assurance Monitoring (CAM) [40 CFR 64.2(a)(2)]	DOES NOT APPLY. Facility does not use a control device to achieve compliance.
		40 CFR 68 – Chemical Accident Prevention Provisions [40 CFR 68.10(a)]	DOES NOT APPLY. Facility does not have a regulated substance.
EQT16 EQT17 EQT18 EQT19 EQT20 EQT24 EQT25 EQT26 EQT27	E-17 – LNG Vaporizer SCV E-18 – LNG Vaporizer SCV E-19 – LNG Vaporizer SCV E-20 – LNG Vaporizer SCV E-21 – WEG Solution Heater 2211-LC E-22 – Glycol Heater (3202-C1) E-23 – Glycol Heater (3202-C2) EG-1 – Diesel Emergency Gen. EG-2 – Diesel Emergency Gen.	LAC 33:III.Chapter 5 – Permit Procedures – Prevention of Significant Deterioration [LAC 33:III.509]	DOES NOT APPLY. The net contemporaneous increase in NO_X emissions (as evaluated on an actual to allowable basis using 2001 through 2004 actual emissions) is less than its significance level of 40 TPY; therefore, PSD review is not required.

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ID No.:	Description	Requirement	Notes
EQT28	SEG – Diesel Emergency Gen.	Emission Standards for Sulfur Dioxide Emission Limitations [LAC 33:III.1503.C] Emission Standards for Sulfur Dioxide Recordkeeping and Reporting [LAC 33:III.1513]	Exempt. Unit emits less than 250 tons of SO_2 per year. Record and retain at the site for at least 2 years the data required to demonstrate compliance with or exemption from SO_2 standards of Chapter 15. Compliance data shall be reported annually in accordance with LAC 33:III.918
EQT21	T-3 – Gasoline Storage Tank	NSPS Subpart Kb – Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels for Which Construction, Reconstruction, or Modification Commenced after July 23, 1984 [40 CFR 60.110b]	DOES NOT APPLY. Storage tank is less than 10,000 gallons.
EQT29	T-2 – Bunker C Storage Tank	Storage of Volatile Organic Compounds [LAC 33:III.2103]	DOES NOT APPLY. Maximum true vapor pressure < 1.5 psia.
		NSPS Subpart Ka – Standards of Performance for Storage Vessels for Petroleum Liquid for Which Construction, Reconstruction, or Modification Commenced after May 18, 1978, and prior to July 23, 1984 [40 CFR 60.110a]	DOES NOT APPLY. No. 6 Fuel Oil is not defined as a petroleum liquid [40 CFR 60.111a(b)

ID No.:	Description	Requirement	Notes
EQT3 EQT23	E-1 – Gas Turbine 2204-JA (20 MW)	NSPS Subpart GG - Standards of Performance for Stationary Gas Turbines [40 CFR 60.330]	EXEMPT from the NOx standard of 60.332(a) per 60.332(j). SO_2 standards of 60.333 still apply
		Emission Standards for Sulfur Dioxide Emission Limitations [LAC 33:III.1503.C] Emission Standards for Sulfur Dioxide Recordkeeping and Reporting [LAC 33:III.1513]	Exempt. Unit emits less than 250 tons of SO_2 per year. Record and retain at the site for at least 2 years the data required to demonstrate compliance with or exemption from SO_2 standards of Chapter 15. Compliance data shall be reported annually in accordance with LAC 33:III.918
EQT4 EQT5 EQT6 EQT7 EQT8 EQT9 EQT10 EQT11 EQT12 EQT13 EQT14 EQT15	E-3 – LNG Vaporizer 2101-CA E-4 – LNG Vaporizer 2101-CB E-5 – LNG Vaporizer 2101-CC E-6 – LNG Vaporizer 2101-CD E-7 – LNG Vaporizer 2101-CE E-8 – LNG Vaporizer 2101-CF E-9 – LNG Vaporizer 2101-CG E-10 – Fuel Gas Heater 2211-LA E-11 – Fuel Gas Heater 2211-LB E-14 – LNG Vaporizer E-15 – LNG Vaporizer E-16 – LNG Vaporizer	Emission Standards for Sulfur Dioxide Emission Limitations [LAC 33:III.1503.C] Emission Standards for Sulfur Dioxide Recordkeeping and Reporting [LAC 33:III.1513]	Exempt. Unit emits less than 250 tons of SO_2 per year. Record and retain at the site for at least 2 years the data required to demonstrate compliance with or exemption from SO_2 standards of Chapter 15. Compliance data shall be reported annually in accordance with LAC 33:III.918

Prevention of Significant Deterioration/Nonattainment Review

The Lake Charles LNG Receiving Terminal is a major source under the Prevention of Significant Deterioration (PSD) program, 40 CFR 52.21 and LAC 33:III.509. With this project the potential increase in NO_X emissions from affected sources *(without respect to decreases)* was above its significance level; therefore, a PSD netting analysis was required. The net contemporaneous

increase in NO_X emissions (as evaluated on an actual to allowable basis using 2001 through 2004 actual emissions) was less than the significance level of 40 TPY; therefore, PSD review was not required. Reduction of NO_X emissions was obtained by limiting the hours of operation of the gas turbine, Emission Point E-1, to 200 hours per year and establishing heat input CAPs for the vaporizers and glycol heaters.

The natural gas turbine (Emission Point E-1), the fuel gas heaters (Emission Points E-10 and E-11), and seven LNG vaporizers (Emission Points E-3 through E-9) are permitted under PSD Permit Number PSD-LA-97(M-2), issued May 27, 1987. The emission limits in this permit for the natural gas turbine and LNG vaporizers are more stringent than the emission limits in the PSD Permit. The emission limits in this permit for the fuel gas heaters are the same as the emission limits in the PSD Permit.

Three LNG vaporizers (Emission Points E-14, E-15, and E-16) are permitted under PSD Permit Number PSD-LA-685, issued October 1, 2002. The emission limits in this permit for the LNG vaporizers are the same as the emission limits in the PSD Permit. The PSD Permit requires stack testing on the LNG vaporizers and approves liquid cooled burner cones with a NO_X emission limit of 4.9 lb/hr as BACT for these sources.

MACT Requirements

This facility is a minor source of toxic air pollutants (TAPs) pursuant to LAC 33:III.Chapter 51. The proposed modifications will not make the facility a major source of TAPs; therefore, Maximum Achievable Control Technology (MACT) and the NESHAP regulations do not apply.

Air Quality Analysis

None.

General Condition XVII Activities

The facility will comply with the applicable General Condition XVII Activities emissions as required by the operating permit rule. However, General Condition XVII Activities are not subject to testing, monitoring, reporting or recordkeeping requirements. For a list of approved General Condition XVII Activities, refer to the Section VIII – General Condition XVII Activities of the proposed permit.

Insignificant Activities

All Insignificant Activities are authorized under LAC 33:III.501.B.5. For a list of approved Insignificant Activities, refer to the Section IX – Insignificant Activities of the proposed permit.

V. PERMIT SHIELD

A permit shield was not requested.

VI. PERIODIC MONITORING

40 CFR 64 – Compliance Assurance Monitoring is not applicable to this facility.

VII. GLOSSARY

Carbon Monoxide (CO) – A colorless, odorless gas, which is an oxide of carbon.

Maximum Achievable Control Technology (MACT) – The maximum degree of reduction in emissions of each air pollutant subject to LAC 33:III.Chapter 51 (including a prohibition on such emissions, where achievable) that the administrative authority, upon review of submitted MACT compliance plans and other relevant information and taking into consideration the cost of achieving such emission reduction, as well as any non-air-quality health and environmental impacts and energy requirements, determines is achievable through application of measures, processes, methods, systems, or techniques.

Hydrogen Sulfide (H_2S) – A colorless inflammable gas having the characteristic odor of rotten eggs, and found in many mineral springs. It is produced by the reaction of acids on metallic sulfides, and is an important chemical reagent.

New Source Review (NSR) – A preconstruction review and permitting program applicable to new or modified major stationary sources of air pollutants regulated under the Clean Air Act (CAA). NSR is required by Parts C ("Prevention of Significant Deterioration of Air Quality") and D ("Nonattainment New Source Review").

Nitrogen Oxides (NO_X) – Compounds whose molecules consist of nitrogen and oxygen.

Organic Compound – Any compound of carbon and another element. Examples: Methane (CH_4), Ethane (C_2H_6), Carbon Disulfide (CS_2)

Part 70 Operating Permit – Also referred to as a Title V permit, required for major sources as defined in 40 CFR 70 and LAC 33:III.507. Major sources include, but are not limited to, sources which have the potential to emit: $\geq$ 10 tons per year of any toxic air pollutant; $\geq$ 25 tons of total toxic air pollutants; and $\geq$ 100 tons per year of regulated pollutants (unless regulated solely under 112(r) of the Clean Air Act) (25 tons per year for sources in non-attainment parishes).

PM_{10} – Particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers as measured by the method in Title 40, Code of Federal Regulations, Part 50, Appendix J.

Potential to Emit (PTE) – The maximum capacity of a stationary source to emit any air pollutant under its physical and operational design.

Prevention of Significant Deterioration (PSD) – A New Source Review permitting program for major sources in geographic areas that meet the National Ambient Air Quality Standards (NAAQS) at 40 CFR Part 50. PSD requirements are designed to ensure that the air quality in attainment areas will not degrade.

Sulfur Dioxide (SO_2) – An oxide of sulfur.

Sulfuric Acid (H_2SO_4) – A highly corrosive, dense oily liquid. It is a regulated toxic air pollutant under LAC 33:III.Chapter 51.

Title V Permit – See Part 70 Operating Permit.

Volatile Organic Compound (VOC) – Any organic compound, which participates in atmospheric photochemical reactions; that is, any organic compound other than those, which the administrator of the U.S. Environmental Protection Agency designates as having negligible photochemical reactivity.

Worksheet for Technical Review of Working Draft of Proposed Permit

Company Name:	**Trunkline LNG**	**AI #:**	**3351**	**TEMPO Activity No:**	**PER20050002**
Facility Name:	**Lake Charles Receiving Terminal**	**Remarks Submitted by:**	**Charles Wait**		
Permit Writer:	**Scott Pierce**	**Permit Writer Email address:**	**Scott.Pierce@LA.GOV**		

Instructions

Permit Reference – Indicate specific portion(s) of the permit to which the remark relates (i.e. "Specific Condition 120", or "Section II Air Permit Briefing Sheet", etc.).

Remarks – Explain the basis for each remark. Provide regulatory citations where possible. If the remark is made due to an error or omission in the permit application this must be noted and the revised information ***must be submitted.*** Revised information may be submitted separately from this worksheet. Please be aware that revised information must be submitted in writing and certified by the Responsible Official, and if necessary, by a Professional Engineer licensed in Louisiana. *Please Note:* New or additional equipment, processes or operating conditions not addressed in the original permit application will be addressed on a case-by-case basis. The Department reserves the right to address such changes in a separate permit action.

DEQ Response – ***DO NOT COMPLETE THIS SECTION.*** This section will be completed by Air Permits Division of DEQ, included in the proposed permit package and made available for public review during the public comment period.

- Additional rows may be added as necessary.
- Completed Form shall be emailed to the Permit writer in MS Word compatible format within the deadline specified in the email notification.

Permit Reference	Remarks	Air Permits Division Response (for official use only)
Specific Conditions 16, 23, 30, 37, 44, 51, 58, 78, 84, 93, 99,105, 111 and 117	The permit condition uses language directly out of the Federal rule. At first read it appears as though daily fuel monitoring is required; however, the rule indicates (as well as the permit condition) that monthly records are satisfactory if fuel sulfur levels remain below 0.32lb/MMBTU. Trunkline's FERC tariff limits sulfur in the gas to less than 20 grains/100 SCF. The standard's level of 0.32 lb/MMBRU equals 224 gr/100 scf; well above the tariff limit of 20 grains. The permittee seeks a parenthetical note following the requirement indicating that monthly requirements are acceptable because of the max 20 grain tariff. See attached calculations.	Revised language was added to clarify the monthly fuel rate recordkeeping requirement.
Specific Conditions 71, 80 and 89	The permit repeats the PSD permit requirements of an initial compliance test for at least one of the three units. These tests were completed post construction and this requirement is no longer a valid ongoing requirement. Please either remove the test requirement or install a note parenthetically that this requirement was met with a post construction test.	Parenthetical statement was added to clarify that the stack test requirements have been completed.

Specific Requirement 178	This requirement appears to require excess emissions reports for the facility regardless of whether the facility has excess emissions. The permittee believes that this a repeat of General Condition XI. The permittee suggests removing Specific Requirement 178 and relying on the general condition.	Parenthetical statement was added to be consistent with Part 70 General Condition R and La. State General Condition XI.
Insignificant Activity	The permittee has become aware of an insignificant activity located near the facilities vent stacks. A 3 MMBTU/hr vent gas heater. The heater operates a pilot flame throughout the year and only comes to full operation during venting activities. This source meets the requirements of LAC 33:III.501.B.5.A.1. Asumming full capacity operation, the PTE for NOx approximates 1.2 tpy	Based on the additional information received on September 20, 2006, the source was added to the IA list.